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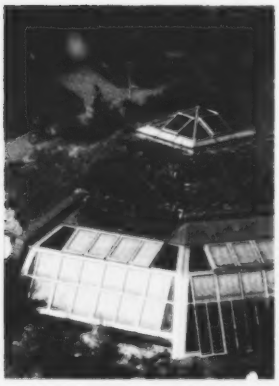
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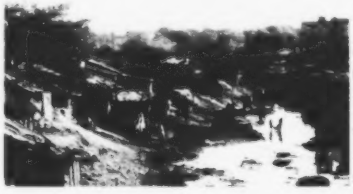
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Tel: (254 20) 621 234
Fax: (254 20) 623 927
e-mail: cpinfo@unep.org
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Editor: Geoffrey Lean
Coordinators: Naomi Poulton, Elisabeth Waechter
Special Contributor: Nick Nuttall
Circulation Manager: Manyahleshal Kebede
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UNEP

From the desk of

KLAUS TOEPFER

United Nations Under-Secretary-General and Executive Director, UNEP

In the East Africa city of Dar es Salaam an innovative transport project promises to cut congestion, reduce air pollution and reclaim the streets for pedestrians, cyclists and the public. The Dar es Salaam Bus Rapid Transit system, or DART, is a partnership between the City Council and a wide variety of companies and organizations, including UNEP, with funding from the Global Environment Facility.

The blueprint for the scheme – which will combine modern, multi – door buses and fast boarding for passengers with novel ticketing systems, priority bus lanes and car restrictions – is Bogotá. In the 1990s the Colombian city was unloved by its citizens. As an article in this World Environment Day edition of *Our Planet* outlines, the car was king and the streets and public places were choking in traffic noise and fumes.

Civic pride

But Bogotá is now reclaiming its sense of community and civic pride, largely thanks to its rapid transit system and other measures like restricting car use, planting trees, establishing or redeveloping some 1,000 parks, and encouraging more human-friendly modes of transport. It now boasts Latin America's biggest network of bicycle ways, some 300 km of them, and the world's longest pedestrians-only street, 17 km long.

I believe it is vital to flag up these kinds of success stories. They underline the importance of partnerships and are proof that even seemingly monumental problems of urban squalor, decline, and pollution can be overturned by communities and city leaders with vision, creativity and enthusiasm.

Half the world now lives in cities and two thirds of its population are set to be urban dwellers by 2030. We tend to focus on the huge problems of coping with the accompanying global explosion of unplanned, informal, settlements. Slums and sewers – rather than soaring spires and tantalizing social and professional possibilities – are all too often our sole preoccupation.

Of course we must tackle the misery, unhealthy living conditions and sub-standard services which blight too many city dwellers in both developing and developed countries.

But urbanization, on its own, is far from being a bad thing. From fine buildings and leafy boulevards to city parks and centres for the performing arts, cities can inspire and invigorate, and be sources of wonder, excitement and contemplation. They are also the engines of commerce and trade, and seats of government and power . It was in San Francisco – this year's host for World Environment Day – that the Charter of the United Nations was signed 60 years ago.

Social hierarchies

Cities are also melting pots of cultures, where social hierarchies are blurred, social mobility is always possible, and diversity can thrive and be cherished. They are catalysts for new ideas and political movements. Most of the world's great universities, libraries, theatres, art galleries, concert halls, teaching hospitals and research institutes are in urban settings.

Sadly, however, through incompetence, poor governance or a lack of resources, too many cities are badly run and administered. In many developing countries, the sheer rate of urbanization has been overwhelming for all but the most stoic mayors and town planners.

Ecological footprint

Cities use enormous amounts of natural resources, while their wastes – from sewage to the gases that cause global warming – impact vast areas; by some calculations London, which physically occupies 170,000 hectares, has an ecological footprint of 21 million hectares – or 125 times its size. But they also could help deliver a more environmentally stable and resource efficient world.

As UNEP's *Global Environment Outlook 3* puts it: "The relatively disproportionate urban environmental footprint is acceptable to a certain extent because, for some issues, the per capita environmental impact of cities is smaller than would be made by a similar number of people in a rural setting. Cities concentrate people in a way that reduces land pressure and provides economies of scale and proximity of infrastructure and services."

Clearly, the battles to eradicate poverty and deliver the Millennium Development Goals will be won or lost by whether we can manage the urban environment effectively and creatively. If we can – as the examples of Dar es Salaam and Bogotá suggest – we will be a long way down the road to truly sustainable development ■

YOUR VIEWS

We would like to receive your feedback on the issues raised in this edition of ***Our Planet****. Please either e-mail: cpiinfo@unep.org or write to:*
Feedback, Our Planet
Division of Communications and Public Information, UNEP
P.O Box 30552, Nairobi
KENYA

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Challenges *and Opportunity*

LUIZ INÁCIO LULA DA SILVA describes how sustainable development can protect the environment and generate jobs and income for the poor in urban and rural areas

Although Brazil is known worldwide for its great forest and water resources, it has now become largely urbanized. Eighty-two per cent of its 183 million inhabitants live in urban zones, mainly in metropolitan areas and cities with over 100,000 people. This urban agglomeration results from industrialization and accelerated growth that took off in the 20th century and resulted in major income concentration and social exclusion. The cities reproduced this economic model, concentrating large amounts of public resource into affluent areas while at the same time not providing adequate infrastructure and living conditions for less prosperous neighborhoods.

Brazil does not offer housing to at least 6.6 million of its low-income population. Nearly 30 million people do not have access to drinking water. Half the urban housing is not connected to a sewerage system, and only 10 per cent of the sewage is treated. There is, therefore, a close link between social exclusion and environmental degradation. The poor are the major victims of urban environmental problems. In view of the heightened awareness of the emerging threat of environmental degradation, it is now understood that poor populations in coastal zones are especially vulnerable to the impact of global warming on ecosystems and sea level rise.

In the first two years of our Government, we set out to meet the challenge of promoting economic growth with income distribution, achieving rapid industrial growth while at the same time generating employment and improving workers' incomes.

However, it is time to take on board the wider meaning of sustainability which covers not only economic and social dimensions but environmental aspects as well. In Brazil, dealing with the so-called social deficit implies not only fighting hunger and poverty – a major focus of my Government and one of the Millennium Development Goals. It also requires reducing social inequality through the "right to city", which stands for adequate living conditions, sanitation, transport, and other urban services. Improving the urban milieu will surely improve environmental conditions, especially as concerns water resources.

This is a major challenge. The investments needed to make basic sanitation universally available are estimated at US$ 2.5 billion a year for the next twenty years. On-going negotiations with the International Monetary Fund aim to reclassify resources devoted to sanitation as investment for the purpose of estimating the primary deficit in national accounts. This initiative reflects our understanding that making full use of these resources is crucial to the country's social and environmental development and to enhancing economic growth.

Yet sustainable development requires more. When I invited Senator Marina Silva to become my Minister for the Environment we accepted the challenge of putting environmental issues at the center of government policy. This is no simple task: it requires fostering economic growth without ignoring social and environmental issues. Clearly one cannot disassociate industrial and agricultural development policies from questions of social inclusion and environmental preservation. These different dimensions form a whole, generating mutually reinforcing outcomes, results and impacts.

Renewable energy

Electricity provides a good example: increasing industrial production requires higher energy consumption. Brazil is widely known for its high level of renewable energy use: 85 per cent of its installed capacity is hydroelectric in origin. Bringing on stream new units has social and environmental implications that can and must be minimized. The Ministry for the Environment and the Ministry of Mines and Energy are jointly implementing new planning measures geared to reducing damaging environmental effects and human displacement. This involves a strategically integrated approach to water basins and their multiple uses. Two other programs focus on reducing energy wastage by rationalizing industrial production processes, curtailing consumer demand and providing incentives for research into novel energy sources, such as solar and wind power.

The National Water Resources Plan – recently discussed at UNEP's Global Ministerial Environment Forum in Nairobi – is relevant here. Brazil has developed legislation concerning Water Resources Policy and set up the National Water Agency, which encourages the establishment of water basin committees. These committees regulate conditions for water use, sanitation programs and basin recovery measures.

The crosscutting theme of environmental sustainability is also relevant to Brazil's expanding agricultural frontier vis-à-vis the need to preserve our forests. Global concern with climate

change underscores the interdependence between environmental and development issues, which involve all countries, as well as urban and rural areas and natural resources. As a signatory of and key actor in negotiating the Kyoto Protocol (although not included in the annex I list of countries with reduction targets) Brazil believes public policies should aim to reduce harmful atmospheric emissions.

We are determined to combat burning and deforestation in the Amazon. Government initiatives covered in the "Sustainable Amazon Plan" include sustainable development for the area surrounding the BR-163 highway and the Illegal Deforestation Prevention and Control Action Plan for the Amazon. As a result of federal monitoring and control, deforestation indexes between 2002 and 2003 have stabilized. Although present levels remain unsatisfactory, they do bear witness to the Government's endeavors.

Safe control

The recent murder of Sister Dorothy in an Amazonian agricultural settlement highlights the conflict between land-grabbing groups that settled along the agricultural frontier by burning down forestland where state control is weak, and local settlements that practice novel government-sponsored forms of sustainable occupation. This new approach symbolizes a determination to put into practice policies protecting the environment and fostering sustainable production. The assassination gave added impetus to ongoing initiatives which include the creation of an inter-ministerial taskforce to reinforce the Deforestation Combat Program. I hope to make this task force permanent and thus reinforce the state's presence through greater police action, land regulation and encouragement for sustainable production. Since 2003, 7 million hectares – 23 per cent of all extant conservation areas – have come under protection in the Amazon region.

To return to climate change – and therefore to global environmental issues – Brazil pioneered ethanol fuel (derived from sugar-cane). This renewable energy source replaces petroleum-derived fuels, thus reducing greenhouse gas emissions. Many vehicles in Brazil run exclusively on ethanol while the remainder run on a mixture that is 25 per cent ethanol. Recently 'bi-fuel' cars have come on the market. Because they run on any combination of gas and ethanol, an added impulse has been given to the country's ethanol industry.

Furthermore, we recently launched the National Biodiesel Production Program, which adds two per cent of a vegetable-derived diesel fuel to normal diesel. This percentage is set to rise over the coming years and thus foster the output of castor oil and palm oil by mostly low-income populations in the North and Northeast of Brazil. This will be one more effort to link environmental protection to issues of development, job creation and better income for poor people.

We are determined to combat burning and deforestation in the Amazon

I am convinced that these programs and technologies can be adopted both in developed countries, by substituting these new fuels for fossil fuel consumption, and in poorer countries, by producing these renewable fuels themselves and thus helping to better distribute income worldwide. This is Brazil's contribution to bringing about change in the global production and consumption matrix.

Clearly, sustainable development is not just a challenge, but rather an opportunity for the Brazilian government and society. It is challenging because it requires profound change in the socially unfair economic growth models and patterns of the past and present. It also demands a new awareness on the part of governments, entrepreneurs and society as a whole. It offers the opportunity to develop wide-ranging initiatives as well as novel technological patterns of production and distribution. Finally, within a "democratic sustainability" approach, all stake-holders should be invited to take an active interest in these new processes. Clean production methods, environmental education together with increased local Agenda 21 initiatives are essential to achieving these goals and improving the living conditions in our cities and our planet ■

Luiz Inácio Lula da Silva is President of Brazil

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Bridging the *Water Gap*

MARIA MUTAGAMBA describes how her country is meeting the Millennium Development Goals in bringing water and sanitation to its towns and cities

Uganda may be predominantly rural, but it has a fast rate of urbanization. Among the consequences of this urban influx is growing demand for water and sanitation services. The gap is continuously widening between this demand and supplies in urban areas – where water, sanitation and hygiene are vital components of sustainable development and the alleviation of poverty.

Poverty eradication

The water sector is o..e of the Government's priority areas – essential, as it is, for poverty eradication and the welfare of society. The Government pledged to increase access to safe and clean water and sanitation facilities by mobilizing resources for: constructing and rehabilitating facilities for domestic water supply through piped water schemes, boreholes, protected springs, and rainwater tanks; constructing dams and valley tanks; and promoting hygienic practices. Driving forces in the water sector include the need:

- to promote co-ordinated, integrated and sustainable water resources management to ensure conservation of water resources and provision of water for all social and economic activities;
- to promote the development of sustainable safe water supply and sanitation facilities within easy reach of 80 per cent of the urban population – rising to 100 per cent by 2010 – based on management responsibility and ownership by the users; and
- to promote the development of water supply for agricultural production to modernize agriculture and to mitigate the effects of climatic variations on rain-fed land.

The trend in urban safe water coverage shows a progressive increase over the years. Improved access to water sources within reasonable range of people's homes has increased from below 10 per cent in 1986 to 65 per cent today. Household sanitation service coverage is now estimated at 53 per cent. These initiatives are in line with achieving the targets of the Millennium Development Goals.

The Ugandan Government has been reforming the water and sanitation sector over the past years. This is intimately linked to the Government's poverty alleviation plans, and is financed largely by debt relief funds. The Government has led others and built a high level of trust and consensus with its sector development partners and with civil society organizations, through initiating progressive and innovative reforms.

This reform process aims at providing efficient and effective service delivery to urban areas. It has involved comprehensively assessing the water and sanitation sector – including studying the rural and urban sub-sectors – and preparing action and investment plans. Key strategies in implementing the urban initiatives that Government has identified include: decentralized delivery of services; increased public-private partnerships; and a sector-wide approach to planning. The Government of Uganda recognizes that a deficiency in resources for implementing the delivery of basic services is a critical constraint to development.

Great investments

Great investments have been made, most notably within the last decade. They have improved coverage or service levels as extensively as expected in achieving the present level of 65 per cent of the urban population with access to safe water supply or sanitation services.

Reform in the urban water supply and sanitation sub-sector began in the 1990s and introduced commercialized operations based on increased private sector participation. It is believed that▶

public-private partnerships are key to efficiency, with the public sector retaining ownership of the assets and private operators delivering the service. The reforms were developed through an unprecedented participatory process, with strong links to the public service reform process and to the Government's primary objective of poverty alleviation.

This process has been high quality, sustained and influential, bringing civil society organizations, external support agencies and Government together, and leading to real partnerships and mutual understanding among sector stakeholders. It has also fostered the development of networks of policy advocates, such as the Uganda Water and Sanitation Network, and legitimized civil society's role in monitoring the use of water sector funds. The reform process has also raised the profile of the water and sanitation sector, and increased confidence among its backers – resulting in a tripling of funding over the last four years.

Efforts have also been made to strengthen the operational and financial standing of the National Water and Sewerage Corporation (NWSC)– which serves 19 towns across the country – so as to reduce its commercial risks. Performance contracts between the NWSC and Government have improved operational standards and led to reduced staffing, increased connection rates – and a profit of over US$2 million in 2001. The reforms also contained some pro-poor elements, such as reducing the fee for connection to urban water supplies, and allocating new water supply connections to poor households. All these actions have contributed to ensuring improved provision of services, especially to the urban poor.

International commitment

The challenges for the urban sub-sector are many and call for all stakeholders to join hands, if Uganda is to achieve its national and international commitments. The major ones include the following:

1. Equity and equality issues in Ugandan Water Sector Reform. While implementing the urban reforms, concerns regarding perceived exploitation by the private sector and commercially-oriented companies taking over previously public-owned utilities must be addressed. Above all, the reforms for efficient and effective service delivery must be established and sustained.

2. The necessity continuously to address the needs of the poor. A well-performing utility can deliver water services efficiently to its customers, but it must also be seen adequately to supply and meet the needs of the poor, and those living in informal, urban and peri-urban areas for whom water is the single most important priority. The real challenge, therefore, is to tailor the reforms to achieve exactly what is intended in the definition of strategies for the poor.

3. Cost recovery. The need to ensure the survival of Government investments clearly requires sufficient generation of internal cash flow to meet expected expenditures. The issue of cost recovery should not be confused with the ability of the poor to meet the real cost of water services. A balance must be struck between the two so as to be able to adopt appropriate tariff structures and strategies that will ensure the long-term sustainability of urban water sector investments.

4. Urban sanitation and hygiene. Selling water is relatively easy, even to the poor – but selling sanitation is much harder, despite the clear public health benefits. Much work therefore has to do be done on sensitization and awareness campaigns to all citizens of the country. Resources are also needed, since this has been a neglected area in the past.

Many and varied challenges therefore definitely remain – but we are continuing to move forward towards realizing the Government's vision to ensure water for all cities ■

Hon. Maria Mutagamba is Minister of State (Water) of Uganda and President of the African Ministerial Council on Water.

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Golden Gateway to *Green Cities*

GREEN CITIES
PLAN FOR THE PLANET!
WORLD ENVIRONMENT DAY
5 JUNE 2005

UNEP has selected the City of San Francisco to host the main celebrations of World Environment Day 2005. The event will coincide with the 60th anniversary of the birth of the United Nations in the Californian city. Mayors from around the world will meet to celebrate green cities and create a plan for a sustainable urban future.

California Governor Arnold Schwarzenegger explains how protecting the environment and economic growth can go hand in hand

United Nations World Environment Day is one of the most important events on the international environmental calendar. California and San Francisco are honored to be the first hosts in the United States for World Environment Day.

The environment is an essential part of the California experience. The state's stunning beauty lies in its diverse natural wonders and resources. I am passionately committed to defending California's environment, and providing real leadership to protect our precious land, air, and water.

Here in California, we have rejected the notion that we must choose between protecting the environment, and protecting jobs and economic growth. We know that if our beaches are soiled by oil spills, tourists will not experience the wonders of our magnificent coastline. If we log our forests irresponsibly, streambeds will be destroyed and our fishing industry will suffer.

But, California is not alone in facing this challenge. If we are going to leave a better planet for generations to come, we must work within a global effort to ensure the economy and the environment never become competing interests. United Nations World Environment Day will help us focus on these critical issues, but there is an added significance to the event coming to San Francisco.

Sixty years ago, the United Nations was born in the City by the Bay. Representatives from fifty-one countries committed to preserving peace through international cooperation and collective security founded the United Nations at the 1945 charter convention in San Francisco.

Today, nearly every nation in the world belongs to the United Nations. Together, members work to maintain international peace, develop friendly relations, cooperate in solving international problems, and promote respect for human rights.

As the nations of the world meet this week in San Francisco, we can add another great principle to the list: working together to build a sustainable future and a healthy respect for our planet ■

Jared Blumenfeld describes a pioneering series of accords for sustainable cities

For the first time in history, the majority of the planet's population will soon live in cities. By 2025, 60 per cent of humanity will do so. One million people move to them each week in a massive, continuing demographic migration.

Our new urban planet has already created common environmental challenges and opportunities. Mayors can shape the destiny of the planet by developing truly sustainable urban centers.

The key legacy of World Environment Day 2005, celebrated in San Francisco, will be the Urban Environmental Accords. Drafted by mayors, NGOs, universities, and UN agencies, they focus on 21 actions that all cities can take – and will be signed on the 60th Anniversary of the UN Charter, itself signed in this city in 1945.

The Accords are a series of environmental actions that have been implemented by at least one city. They take into account the fact that large city mayors share many common responsibilities: providing energy, clean water, recycling, public transportation, parks, and urban planning. Clear and achievable, the entire Accords document takes up only two pages.

They include:

- Adopting and implementing a policy to increase the use of renewable energy to 10 per cent of the city's peak load within seven years.
- Implementing "user-friendly" recycling and composting programs to provide alternative disposal options, with the goal

Marian Plumb Still Pictures

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Mayor Gavin Newsom prepares to test drive a Ford Escape Hybrid Taxi cab in San Francisco. In February 2005 San Francisco became the first city in the USA to use hybrid SUVs as taxicabs when Yellow Cab Company and Luxor Cab Company purchased a total of 15 Hybrid Ford Escapes

of reducing per capita solid waste disposal to landfill and incineration by 20 per cent in seven years.

- Adopting a policy that mandates a green building rating system standard that applies to all new municipal buildings.

The broad selection of Accords actions allows flexibility while maintaining accountability. By agreeing to them, mayors enter an action-step process, beginning with passing a local law and subsequently monitoring progress towards the target goals.

Like World Environment Day, the Accords offer an opportunity to reinforce the importance of the United Nations in helping to resolve global challenges – environmental and otherwise. They signify a new kind of international cooperation: forging a framework among cities rather than nations. Although there are more than 400 international treaties, agendas, and conventions on record, there is often a gap between these international political commitments and their fulfillment where they matter most – in our cities.

By signing the Accords, the mayors commit to moving vital environmental issues to the top of their agendas. Citizens of the signatory cities will also be responsible for keeping their mayors accountable to their commitments.

Providing common-sense solutions to common problems, the Accords are a living and dynamic process that set the stones upon which each of us will walk on the path to a sustainable future ■

Jared Blumenfeld is Director of the San Francisco Department of the Environment

San Francisco Mayor Gavin Newsom welcomes delegates from around the world on World Environment Day

San Francisco is honored to host United Nations World Environment Day 2005. We are delighted to work with the United Nations Environment Programme to make sure that World Environment Day in San Francisco leaves a legacy that will advance environmental wellbeing here at home and around the world.

Green cities

The theme for World Environment Day 2005 is 'Green Cities'. This is particularly fitting since the 21st century is the first time that most of the world's population will live in cities. As urban populations grow, it becomes more and more vital to balance the needs of the environment, the economy, and social equity if we are going to develop a way of living that can sustain our planet and our people into future generations.

The population shift from rural areas to the cities will have a dramatic impact on the planet's resources. It will also result in significant political changes where city governments will become directly responsible for solving critical environmental issues.

Environmental justice

Every city in the world depends on rural territories many times its size to provide food and water for its citizens, to say nothing of the resources required to produce consumer goods. But to date little attention has been paid to developing the tools cities will need to solve these environmental challenges.

Environmental accords

World Environment Day 2005 will feature a series of special events focusing on urban environmental issues such as recycling, renewable energy, resource conservation, environmental justice and public health. Mayors from the world's largest cities will share ideas and experiences, establish goals for urban environmental improvement, and identify the means to attain these goals. This will all be compiled into a document called the San Francisco Urban Environmental Accords, a first-ever set of environmental agreements made between municipal government These accords will help all of us to act locally, while thinking globally ■

The Spirit of "Mottai Nai"

Yuriko Koike describes how one of the world's most urbanised countries is working towards a sustainable environment through action on waste and climate change

Many of the world's current environmental problems arise from fundamental socio-economic activities, including regular business activities and daily life. Recognising this, we need fundamentally to re-evaluate our economic activities and lifestyles. This can be done by proactively mobilizing all our knowledge of environmental conservation. I believe that this will lead to the establishment of a sustainable society by ensuring a synthesis of environmental protection and economic growth.

Japan will advance policy measures to bring about a fundamental socio-economic shift to realise a sound material-cycle society and establish a low-carbon economy.

Nobel Peace Prize Laureate Prof. Wangari Maathai, who serves as Assistant Minister for Environment of Kenya, highly evaluated the Japanese spirit of "mottai-nai" – meaning behavior or attitude that respects and conserves products and resources – when she visited Japan in February 2005. Believing that it is necessary for the entire globe, she has been working on disseminating the word, hoping that it enters everyday usage, like the Japanese word "tsunami".

Formulating guidelines

In the spirit of "mottai-nai", Japan is committed to accelerating the establishment of a sound material-cycle society through the 3Rs: reducing, reusing and recycling waste. It is committed to promoting the comprehensive and systematic reduction of materials, and their sound cyclical use, so as to realise a zero-emission society. To achieve this, we will accelerate the reduction and recycling of municipal wastes by formulating guidelines on sorted collection and fees for waste treatment.

We will encourage local governments to build efficient and effective waste treatment and recycling facilities, and *johkasoh* on-site household sewage treatment systems by creating a new subsidy for establishing the sound material-cycle society. We will conduct a review process to revise the Law for the Promotion of Sorted Collection and Recycling of Containers and Packaging. Revisions of other laws concerning waste treatment – including the Waste Management and Public Cleansing Law – will be introduced during the current Diet session to strengthen measures to address large-scale illegal dumping and the inappropriate export of wastes and to establish a more appropriate system

The promotion of reducing, reusing and recycling wastes, resources and products – also known as the "3R Initiative", – has become an important issue internationally. A ministerial meeting held in Japan in April 2005 formally launched the 3R Initiative, advocated by Prime Minister Koizumi at the G8 Sea Island Summit in 2004. Through this opportunity, I am committed to extending 3R activities into the broader international community.

Enviromental problems

In the past year, Japan first endured a record-breaking summer heat wave, and then found itself suffering great loss of life and significant damage from an extremely high number of typhoons hitting the mainland. In such circumstances, I believe every citizen directly perceives the changes and abnormalities of the climate system, and their consciousness has been raised as a result. This heightened awareness gives us an opportunity to renew our awareness of climate change and other environmental problems as issues deeply connected to us. The frequency and magnitude of extreme weather events are projected to increase as climate change advances.

International society took a step forward in mitigating climate change with the Kyoto Protocol's entry into force on February 16, 2005. I believe that it is essential for Japan – as the country which chaired the Third Session of the Conference of the Parties to the UNFCCC, at which the Protocol was adopted – to fulfill its commitment to its six per cent

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A Voorhaar Still Pictures

reduction target. Furthermore, Japan should promote a low-carbon economy, before other countries, through promoting mid- to long-term policies and measures including developing and disseminating relevant technologies.

To this end, the Government of Japan will set forth a Kyoto Protocol Target Achievement Plan, including policies and measures to ensure steady steps for realizing our country's commitments under the Protocol. It will also promote measures including support for the concentrated application of renewable energy to local communities; the development of state-of-the-art technologies and the creation of new businesses to combat climate change: the establishment of a voluntary domestic emissions trading system; and the organization of an intensive campaign to develop a broad national movement. In addition, we will be working on a revision of the Climate Change Policy Law to introduce counting, reporting and disclosure systems for greenhouse gas emissions by business.

Positive interactions

The Government believes that a new environment tax would prove to be an effective additional measure. Specific plans for introducing one were released by the Ministry of the Environment in 2004, and the Government of Japan will review it in a timely manner, aiming to ensure the effectiveness of the policies and measures laid forth in the Kyoto Protocol Target Achievement Plan.

International negotiations on commitments for "post-Kyoto" will be launched in 2005 and Japan is committed to working proactively on establishing common rules among all the parties through policy dialogues with other countries.

As part of our work to establish a low-carbon economy and to realise a sound material-cycle society, we will promote activities to encourage a revision of economic activities and shifts in lifestyle. These will include technological innovations and awareness raising among citizens to accelerate a significant change in the socio-economy.

We are committed to promoting efforts focused on local communities, especially within families and schools. We will promote community development which will contribute to ensuring positive interactions between the environment and the economy. We are also committed to promoting environmental conservation activities and environmental education, with which people will interact closely as

The frequency and magnitude of extreme weather events are projected to increase as climate change advances

part of their daily lives – such as support for refurbishing school buildings with eco-friendly designs, for introducing fuel cells and for promoting environmental education at home. We further pledge to promote the development and dissemination of environmental technologies, including applying nanotechnology, and to promote the incubation and enhancement of environmental businesses.

We are committed to continue making international contributions, including disseminating our environmental technologies and lifestyles and proactive involvement in environmental cooperation in and around the Asian region.

On this basis, we will revise the existing national Basic Environment Plan to incorporate the fundamental perspectives underlying these new environmental policies.

As we implement these measures, we are committed to further strengthening linkages between the government and other stakeholders like citizens, civil groups, business entities and local governments. To take one example, we will work to enable every stakeholder to approach environmental issues with increased interest and participate in environmental conservation activities, through proactive efforts on public relations activities focused on and around "Environment Month", every June.

Whether we are able to make the 21st century a "Century of the Environment" and turn our society into a sustainable one will be determined by how we live our lives today. We are at a crossroads. We have a responsibility to move forward unhesitatingly to accomplish what needs to be done to conserve the earth for future generations, looking beyond short-term convenience.

We are determined to make every effort to establish an environmentally sound nation, in which each one of us can realize we are responsible for protecting the earth, as we carefully assess our efforts to improve the environment ■

Yuriko Koike is Minister of the Environment, Japan.

Cities

without Slums

Anna Tibaijuka calls for more ambitious strategies for improving the lives of slum dwellers and forestalling the development of new slums

One billion people around the world now live in city slums and their numbers are set to double over the next 25 years. But slums are no more inevitable than they are acceptable. While it may be difficult to overcome relative poverty, it is perfectly possible to ensure that the poor are provided with adequate shelter and basic services.

The history of cities in the developed world proves the point. During the nineteenth century urban centers all over Europe and America exploded into major metropolitan areas. London went from a population of 800,000 in 1800 to over 6.5 million in 1900. Paris grew from 500,000 to over 3 million. And by 1900, the population of New York was 4.2 million.

The urban poor in all these cities lived in appalling conditions. With the advent of the mass media, their cause was taken up by many illustrious journalists and authors – such as Dickens, Mayhew and Zola – who engaged politicians and professionals to help change the policies of their time.

Demographic shift

Now, over a hundred years later, some 50 per cent of the world's population live in urban areas. Europe, North and South America and the Caribbean have stabilized with about 75 per cent of their populations living in cities and towns – but UN-HABITAT's projections expect the still predominantly rural Africa and Asia to go through a major demographic shift. One third of the 3 billion inhabitants of the world's cities and towns, are now slumdwellers. And if present trends continue, there will be 2 billion of them by 2030.

The Commission for Africa report, *Our Common Interest* – for which I was one of seventeen commissioners – recently highlighted urbanization as the second most important challenge facing Africans, after the HIV/AIDS pandemic. The reasons are obvious enough. Africa is expected to stop being a rural continent by 2030, with an estimated 51 per cent of its people living in urban areas. Already a staggering 71 per cent of the urban population in Africa lives in slums – so business as usual is a recipe for long-term disaster and conflict.

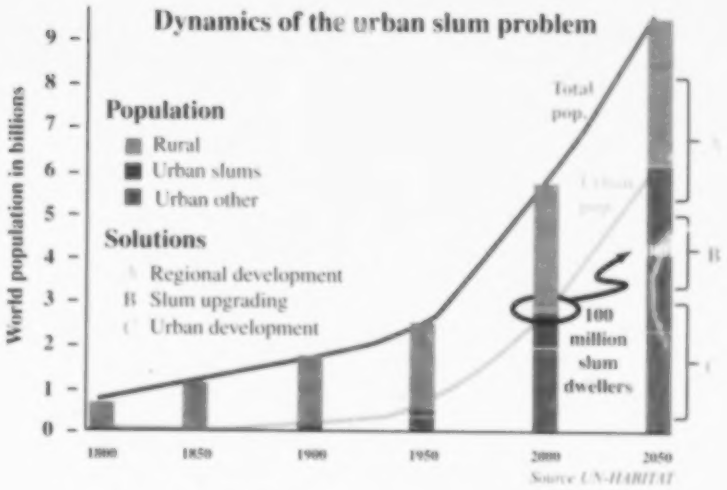
Life expectancy

Global intra-city statistics clearly show that slums are amongst the world's most dangerous places to live. Their people are victims of crime and violence, and suffer a greater incidence of disease. Child mortality is much higher than elsewhere, life expectancy is much lower, and slums are fast becoming breeding grounds for AIDS. In Nairobi – where over 60 per cent of the urban population live on 5 per cent of the land – 150 out of every 1000 children die under the age of five, compared to 83.9 out of 1,000 deaths in the formal areas of the city and 113 in rural areas.

The Millennium Declaration set a target under the Millennium Development Goals, calling for the improvement of the lives of at least 100 million slum dwellers by 2020. The international community has recognized the urgent need for environmentally and socially sustainable cities. Indeed, in 2002, the General Assembly promoted UN-HABITAT into a fully fledged United Nations Programme on Human Settlements to help the international community meet the challenge of urbanization. The problems of the built up environment are now considered a major priority, and for some time, UN-HABITAT has been working with all Habitat Agenda partners – such as governments, local authorities, non-governmental organisations, the private sector, community groups and other UN agencies, especially UNEP – to improve the environmental sustainability of cities and ensure that the poor are given a right to the city.

At the 1972 Stockholm Conference on the Human Environment, Indira Gandhi, then Prime Minister of India, stated that "Poverty is the greatest polluter of them all". Today, as the urbanization of poverty becomes a stark reality, it has become increasingly important to target the urban poor.

The 1992 Rio Earth Summit was one of the first to recognize that international targets for the natural environment would not be met without working at the local level. The inception of Localising



Source UN-HABITAT

Agenda 21 was a good basis for the long term cooperation between UN-HABITAT and UNEP. Under it, much has been achieved in cities around the world to ensure that the capacity of local authorities in managing the urban environment is improved.

Take Nakuru, in Kenya, which was in danger of destroying the natural habitat of pink flamingos at its famous lake. After a decade of work with the local authority, it is the first city in the region to have developed a comprehensive urban development plan. The process of industrialization has been rationalized and the effect of pollutants minimized. This integrated approach also has taken into account the living conditions of the urban poor living in slums along the lake's shore: their participation and inclusion has helped reduce the dangerous proliferation of sewage and solid waste – and includes long term strategies of slum upgrading.

The partnership between UN-HABITAT and UNEP includes such programmes as Sustainable Cities and Managing Water for African Cities. The Sustainable Cities programme, which works around the world, aims to overcome the traditional operational boundaries that have hampered successful environmental planning and implementation.

Starting with consulting all stakeholders – from private businesses to street sellers, from government agencies to non-governmental organizations, from middle class house owners to slum dwellers – it establishes priorities to turn round the management of a city. Sustainable Cities projects have turned chaotic cities like Dar es Salaam into vibrant well-managed economic hubs that run on private-public partnerships; this project was so successful that the programme is now being implemented in all Tanzanian cities and towns. It has also formed the basis of subsequent interventions in slum upgrading.

Managing water

Managing Water for African Cities – a comparatively recent joint initiative between UN-HABITAT and UNEP – is based on the premise that not enough attention is given to the problems of the urban poor in accessing clean water and sanitation. All too often traditional measurements confidently state that they have easy access to basic services – forgetting that each toilet is often used by 500 people or that water comes from burst pipes close to open sewers. UN-HABITAT and UNEP established the programme as a direct follow-up to the 1997 Cape Town Declaration adopted by African Ministers wishing to address the growing water crisis in Africa, and it is now working in Abidjan, Accra, Addis Ababa, Dakar, Johannesburg, Lusaka and Nairobi. The programme is contributing to water sector reform in five of these cities: environmental action plans are helping to protect water resources in three of them; and, in six, awareness-raising campaigns are engaging high-level political support for water resource management and pro-poor investment.

With projects like this, UN-HABITAT, in partnership with UNEP, is hoping to help meet the Millennium Development Goals and to ensure that the urban poor are given a right to the city. However, the international community will have to direct much more attention at the problem of slums, if it is to be overcome. Indeed, UN-HABITAT argues that it is important to review the Millennium Development Goal (MDG) on slums if the international community is to overcome poverty.

When the international community set target 11 of Goal 7 in 2000 at an absolute figure of 100 million slum dwellers, within the context of cities without slums, it was assumed that this – as approximately 10 per cent of the then slum population – would be appropriate. However, this modest figure failed to take into account the expected increase in slum dwellers which – according to UN-HABITAT's report, *The Slum Challenge* – will lead to them totaling 1.6 billion in 2020. In other words, UN-HABITAT argues that if the MDG is to be effective, more must be done to forestall the future growth of slums. The international community must commit itself to support a range of activities, including capacity building for integrated national urban development strategies; improving the performance of local governments in managing future urban growth and effectively carrying out land use planning; and mobilizing resources more effectively.

Even more critical is the urgent need to find new and innovative financing mechanisms that can capitalize domestic savings for bankable projects aimed at building affordable housing. A good example of this is UN-HABITAT's Slum Upgrading Facility whose long term aim is to provide guarantee mechanisms to leverage private sector funds for slum upgrading projects and pro-poor investments.

Partnerships between UN agencies like the one between UNEP and UN-HABITAT can go a long way to meeting the Millennium Development Goals; but there is still a need to find new and innovative ways of working together. The combined efforts of all Habitat Agenda partners, donors, governments, local authorities, the private sector, non-governmental organisations and other UN agencies, should make it possible to ensure that our children live in cities without slums – in a world of sustainable green cities ■

Anna Tibaijuka is the Executive Director of UN-HABITAT.

PEOPLE

Seven world figures have been named by UNEP as "Champions of the Earth", an award for outstanding environmental achievers and leaders from each region of the world. The awards were presented at the United Nations Headquarters in New York on April 19th to His All Holiness Ecumenical Patriarch Bartholomew; King Jigme Singye Wangchuk and the people of Bhutan; President Thabo Mbeki and the people of South Africa; Julia Carabias Lillo, former environment minister of Mexico; Sheila Watt-Cloutier of Canada, Chair of the Inuit Circumpolar Conference; Zhou Qiang and the All-China Youth Federation; and – posthumously – to Sheikh Zayed Bin Sultan Al-Nahyan of the United Arab Emirates.

His Holiness Ecumenical Patriarch Bartholomew

His All Holiness Ecumenical Patriarch Bartholomew receives the award for Europe for having taken the lead among religious leaders in his concern for the environment. He has initiated seminars and dialogues to discuss the need for the mobilisation of moral and spiritual forces to achieve harmony between humankind and nature, including a series of symposia concentrating on water, seas and rivers under the title Religion, Science and the Environment. The symposia also aim to encourage understanding between faiths and to promote interreligious dialogue.

King Jigme Singe Wangchuk

King Jigme Singye Wangchuk and the people of Bhutan are given the award for Asia and the Pacific in recognition of the country's "commitment to placing the environment at the centre of its constitution and all its development plans". The judges praise its "excellent environmental track record with more than 74 per cent of its land under forest cover, and 26 per cent of this cover designated as protected areas."

Sheikh Zayed Bin Sultan Al-Nahyan receives the West Asian award for his "lifetime work" to protect his country's environment, and his "widely acclaimed" contributions to agriculture, afforestation and species protection. Under his leadership 100 million trees were planted, hunting was outlawed more than a quarter of a century ago, and a sanctuary was established on the island of Sir Bani Yas to safeguard such endangered species as the Arabian oryx and the sand gazelle.

His Excellency Sheik Zayed Bin Al Nahyan

President Thabo Mbeki and the people of South Africa have been given the Africa award for the country's "commit-ment to cultural and environmental diversity" and its efforts towards achieving the goals encapsulated in the 2000 Millennium Declaration and the WSSD Plan of Implementation. Particularly mentioned are its achievements in meeting the Johannesburg targets on providing clean water and sanitation, and its world leadership in conservation practices, including its "spearheading of the ground-breaking sponsorship of the Peace Parks concept to support cross-border conservation of critically important wild habitats".

President Thabo Mbeki

Julia Carbias Lillo

Julia Carabias Lillo receives the award for Latin America and the Caribbean for her "efforts in co-ordinating research and rural development programmes in extremely impoverished peasant communities in the four regions of Mexico" and for her "success in working with different sectors that include government, academia and civil society."

Sheila Watt- Cloutier

Sheila Watt-Cloutier is recognised with the North American award for her "contributions in addressing global warming" and in articulating her people's concerns "in the face of the devastating effects of climate change and its relentless assault on Inuit traditional life". The judges also cite her "exemplary contribution to global efforts to eliminate persistent organic pollutants, which pose a particular threat to Arctic peoples and ecosystems."

Dr Zhou Qiang

Finally, Zhou Qiang and the All-China Youth Federation are given a special award. It recognises Mr Zhou's "outstanding achievements" as honorary chairman of the Federation and leader of the China Mother River Protection Operation which has "mobilised millions of Chinese youth to protect the environment". The judges praise the Federation as "a very important force for protecting the environment" recalling that it has "involved 300 million young people and undertaken 882 afforestation projects covering 191,000 hectares."

Rapid Progress

HAN ZHENG describes how one of the world's most populous cities is pursuing sustainable development in transport

It is in cities that people gather to achieve rapid and harmonious material and cultural development, and efficient and effective use of natural, space and intelligent resources. It is in cities that civilizations integrate and evolve. While addressing challenges and problems in the process of development, cities maintain their glamour and keep improving.

Transport, one of cities' most important services, plays a vital role in economic and social development. As one of China's most dynamic cities, Shanghai has enjoyed a rapid, yet stable, era of economic development since 1992, with annual GDP growth maintained at over 10 per cent. Through years of strenuous efforts, it has also registered remarkable achievements in transport development. The 2010 World Expo, which injects new vigor and vitality into the economy, will present a good opportunity for Shanghai to improve its environmental quality and accelerate urban development, and will challenge sustainable development.

Since 1990, Shanghai has optimized its energy mix, relocated polluting industries, and focused on developing the tertiary sector, leading to less pollution from burning coal year after year. However, the number of vehicles on the streets has increased so significantly that the air pollution from exhausts has gone from bad to worse. Over the past decade and more, emissions of NO_x have been rising annually: in 2000 they accounted for over 70 per cent of the total air pollution in Shanghai's downtown area.

Increasing demand for transport, driven by rapid development, has exerted great pressure on the passenger and cargo transport system and on road traffic. Shanghai has been faced with traffic congestion since the mid-1990s. As its socio-economic development continues, the total number of vehicles is forecast to reach two million by 2010 and even exceed three million by 2020. With 50-140 per cent more vehicles on the roads, Shanghai's metropolitan transportation system will face even greater challenges.

Environmental development

The Shanghai Metropolitan Transport White Paper was drafted – with the involvement of all Shanghai government departments, and research institutions from home and abroad – to achieve coordinated social, economic and environmental development while maintaining rapid and stable economic growth. It laid down a strategy of developing a three-dimensional metropolitan transport system and defined a policy of prioritizing the development of public transport. The Shanghai Government is committed to implementing the White Paper and has improved the city's transport in a down-to-earth way by building facilities, improving demand management and reforming the mechanisms of government administration. Long-term plans have been made to achieve and boost harmonious development between transport and socio-economic advance.

Transport holds the key to a city and it is a perpetual task to achieve sustainable economic development. The Shanghai Government invited experts from home and abroad to carry out research on feasible measures to promote sustainable transport. In November 2003, it signed a Memorandum of Understanding on Shanghai Sustainable Transport Partnership with EMBARQ (the World Resource Institute Center for Transportation and Environment) and the Shell Foundation to mark the beginning of joint research on developing indicators of sustainable transport for the city. The first amendment to the White Paper was also organized by the Shanghai Municipal Government.

Several medium-term results have been achieved in building a complete system of indicators for comprehensively evaluating sustainable transport. Establishing such a system is expected to facilitate quantitative analysis and reasonable evaluation of Shanghai's metropolitan transport, and to make our policies more practical, focused and conducive to coordinated socio-economic development. It will also play a positive role in conserving resources and protecting the environment in our beautiful city and on providing convenient, safe, comfortable and clean metropolitan transport for our citizens.

As a member of the Earth Family, Shanghai is committed to shouldering – with other cities – the responsibility of maintaining the beauty and harmony of the planet on which we depend. ■

Han Zheng is Mayor of Shanghai

Ron Giling Still Pictures

Urbanization has led to damaged ecosystems well beyond city borders - up to national and global levels

At a glance: Greening Cities

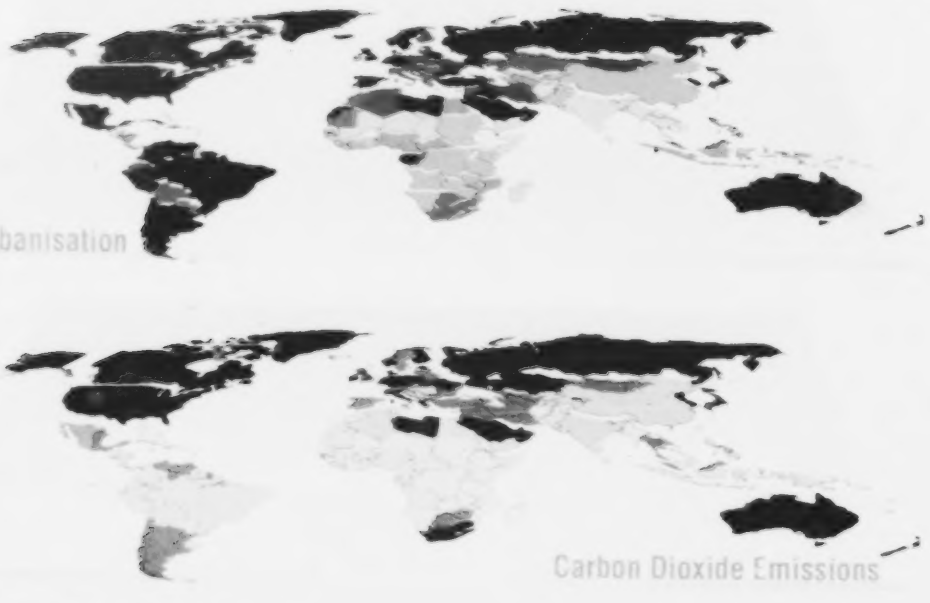
Think global, act local. The slogan has been around for decades. But as the impacts of rapid urbanization increase around the world, it has perhaps never been more relevant.

In 1950, less than one out of three people lived in a city or town. Today nearly half - 3 billion - live in urban areas. By 2030 almost two out of three will live in cities and 90 per cent of this urban population growth will be in developing countries. In 1950, only New York City had more than 10 million inhabitants; by 2015 there will be 23 of these "megacities", 19 of them in the developing world. Yet the most rapid urbanization will not be in these, but in urban centres with currently fewer than 500,000 people.

The reasons for this rapid urbanization are economic, social, and cultural. In the past, urbanization in the developed world was mostly based on economic growth where jobs were available, and resulted in urban productivity. The new urbanization in developing countries, however, is not always tied to the availability of jobs. Many people come to the city for social interests or the hope of a job, only to find themselves trapped in slums, with few prospects. More than a billion people are in this situation, mainly in Asia, Africa and Latin America - and they could grow to more than two billion in just the next 15 years. For the environment the important issue however, is not why, but how this urbanization is taking place - and its consequences for the planet and its ecosystems.

Natural ecosystems are at the core of our survival, whether we live in a city or rural area. They provide air to breathe and food and water to eat and drink. They regulate our environment by cleansing our air (e.g. by trees) and filtering our water (e.g. though wetlands). Finally, they enrich our lives with green space and wilderness areas where we can recreate and be at peace. Without each of these of services our entire well-being would be at risk.

Urban areas import huge amounts of goods - such as fuels, foods and water - from ecosystems beyond their borders, like rural farms, forests, and water catchments. Cities then "export" their



Source: UN-HABITAT (2001) The State of the World's Cities

Source: UN
Urbanizati

wastes – such as garbage, wastewater, air pollution – back out of the city. Both processes have an impact on the delivery of ecosystem services.

Urbanization has led to damaged ecosystems well beyond city borders - up to national and global levels. Forest and wetland ecosystems, supporting vast biodiversity, are threatened by the unsustainable import of goods, such as from felling forests, and from the construction of unplanned housing in critical peri-urban and rural ecosystems. "Exports" of wastes increasingly pollute downstream rivers and coastal waters as cities swell beyond their capacity adequately to treat, and dispose of, them. Air pollution also knows no boundaries: about 80 per cent of greenhouse gases - leading to climate change - now come from cities.

This climate change may not be immediately on the minds of local governments under pressure of urbanization. Nevertheless, the resulting increase in the frequency and intensity of storms has significant human and financial costs, particularly in coastal cities subject to hurricanes. Climate change also leads to unpredictable and extreme temperatures which can translate to higher urban energy costs for production, heating and cooling, thus creating a vicious cycle of more greenhouse gas emissions.

Sustainable solutions

Sustainable solutions exist. Even more importantly, there are solutions that simultaneously address both local and global environmental problems. Take, for example, improvements to transport and energy generation, the largest contributors both to urban air pollution and to worldwide climate change. Cleaner transport fuels and vehicles, cleaner cooking fuels like natural gas, renewable energy sources, and greater energy efficiency, would significantly reduce air pollution and mitigate global warming. Cleaner air would improve public health, and thus bring greater productivity and economic gain for individuals and the community.

Water resources also present such local-global links – and solutions. Cutting rural forests to "import" wood fuel into cities and "exporting" inappropriately treated wastes and wastewaters both degrade important ecosystems and water resources. Once degraded, watersheds lose their ability to supply, store and cleanse the city's water resources. But cities that have invested in protecting water resources outside their borders have saved money on treatment costs.

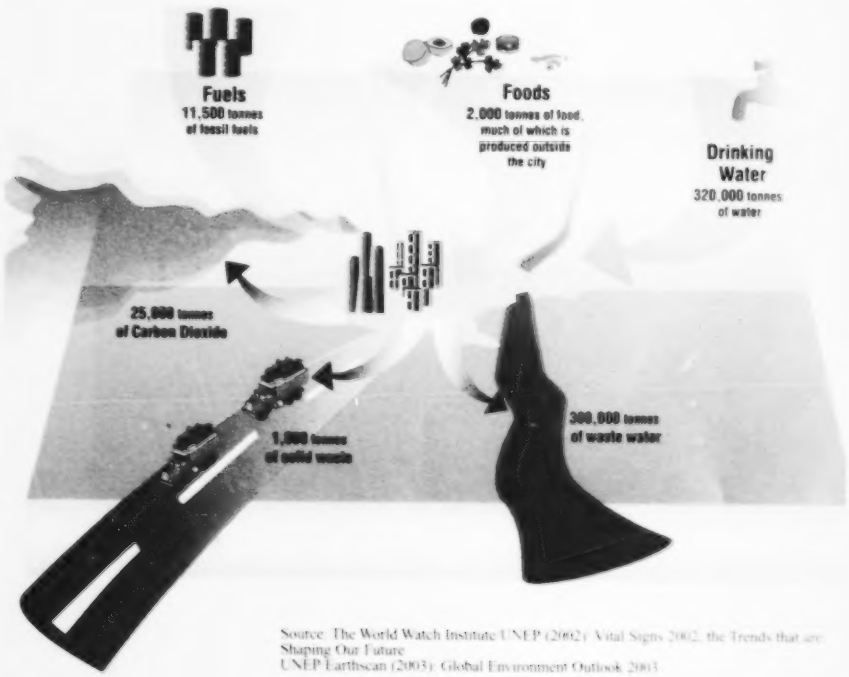
World Environment Day 2005 and its focus on Green Cities – Plan for the Planet embodies the local-global link and presents an opportunity to share, debate, and learn about such solutions. Best practices in public transport, energy, urban green space, water resource management, and other issues must be shared and expanded. Cities from all countries must join together for both the local and common good. Lessons are there to be shared, North to South, South to South and South to North. In 2000, the world's leaders united and agreed the Millennium Development Goals (MDGs). The seventh goal – environmental sustainability, runs as a thread woven into all of them. Rapid urbanization threatens quickly to unravel this MDG fabric – unless we recognize that ecosystems provide vital services for urban dwellers and integrate this into development planning. ■

Tim Kasten is the Chief of the Policy Development Branch of UNEP responsible for coordinating urban environmental activities.

's urban versus rural population

Today 2030

Department of Economic and Social Affairs (2001): World Population Prospects, The 2001 Revision - Data Tables and Highlights



Source: The World Watch Institute UNEP (2002): Vital Signs 2002, the Trends that are Shaping Our Future
UNEP Earthscan (2003): Global Environment Outlook 2003

Carlos Guarita Still Pictures

Charging INTO THE FUTURE

KEN LIVINGSTONE outlines his programme for a green revolution in one of the world's biggest cities, and shows how it is increasingly gaining public support

London is a wonderful place to live but with 7.4 million people living, working and travelling within a small geographic area, huge strains are placed on our environment. I want Londoners to find out about this and realise that it is easier than they may think to make small changes towards a more sustainable lifestyle.

So to celebrate this year's World Environment Day I have organised the first ever "London green lifestyles show". This provides an insight into the city of the future, showcasing emerging innovations and exciting new products to give further inspiration to those already involved in protecting the environment and engage a larger section of Londoners who are interested in the latest lifestyle trends and what they can do to make a difference.

Even simple things like switching off a television on standby, only filling up a kettle with the amount of water needed, or recycling more rubbish can make a difference to preserving London and ensuring that future generations can enjoy Britain's great capital city.

People often struggle with the concept of sustainable development, which is about improving the quality of life for all of us now and in the future. It is important that we do more to live a more sustainable lifestyle – and we should all make it our responsibility to do so. But I also want to be known as a Mayor who has taken bold policy decisions to improve London's environment and to make it a fantastic place to live for generations to come.

In February 2003 I introduced a congestion charge on vehicles entering the centre of the city. Doom-mongers predicted technological failures, gridlock and rat – running, but they have been proved wrong. It has succeeded in cutting traffic delays, and continues to do so. Congestion has been reduced by 30 per cent in the charge zone and emissions of pollution from traffic are down 12 per cent.

The charge has made central London a cleaner, safer and more pleasant place to work, visit and live. Support has grown as residents have seen its tangible benefits and the improvements it has made to their environment. Before it was introduced 39 per cent of Londoners backed the proposal. During its first year this increased to 48 per cent and in the latest survey support had increased to 54 per cent.

London's air quality is much cleaner now than in the smoke-filled streets of the Victorian city, when every household burned coal. Smoke and sulphur dioxide levels in central London declined sharply following the introduction of smokeless zone legislation in the 1960s, and this downward trend has broadly. But it still has the worst air quality in the UK and air pollution is estimated to cause 1,600 premature deaths among Londoners each year. This is unacceptable.

Low emission zones

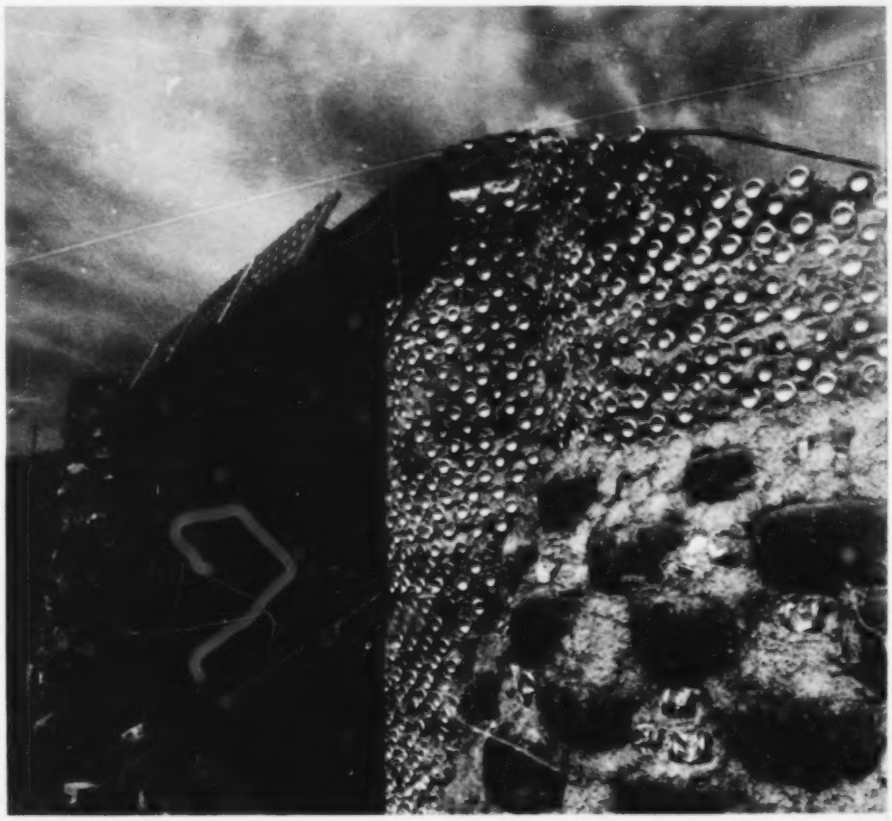
I am committed to introducing a Low Emission Zone to ban the most polluting coaches and lorries from Greater London, making it the only major city in the world to have taken such a radical step to tackle air pollution. This move is justified by recent statistics from the London Atmospheric Emissions Inventory which show that levels of nitrogen oxides (NO_x) and fine particles (PM_{10}) in the city are still at high levels, damaging to health.

As a first step, the city's 20,000 taxis – which are currently responsible for 24 per cent of fine particles and 12 per cent of NO_x emissions from road transport in central London – will have to meet strict emissions standards. The cost of converting them to reach the new standards will be met by a flat rate fare increase of 20 pence per journey from April 2005. All London buses will be fitted with particulate traps by December 2005 – reducing emissions of PM_{10} (and other pollutants) by over 90 per cent and making our fleet one of the cleanest in the country. These measures should reduce emissions, improve health and go a long way towards meeting the Government's air ▶

quality objectives for the capital.

Since the Greater London Council was abolished in 1986 there has been no single body responsible for strategic waste management across London and London is facing several challenges in dealing with its waste – meeting the requirements of the Landfill Directive, becoming self-sufficient and managing waste close to its production point.

Currently, over two thirds of London's municipal waste are exported out of the capital to the surrounding regions. I have set a target for 80 per cent of municipal waste to be managed in London by 2020. This is a necessary but ambitious target in a city with increasing and competing demands on land use and with a forecast growth in population of 800,000 by 2016. To achieve this level of self-sufficiency, London as a city has to dramatically increase its levels of recycling and develop new technology recovery capacity. But the delivery of a strategic approach to waste management is hampered by London's existing governance arrangements.



Martin Bond \ Still Pictures

Huge contribution

London also makes a huge contribution to climate change, one of the biggest issues now facing humanity. As a world city, it needs to take a lead in tackling it and act as an example to the rest of the country. I am bringing the best experts together to implement a radical new programme for renewable energy. The new London Climate Change Agency will help make the city more energy efficient and increase the amount of energy we use from renewable sources.

Our target is to reduce carbon dioxide emissions by 23 per cent by 2016. Much of our work will focus on improving energy efficiency in residential and commercial buildings. It is important that new buildings are designed from the outset with sustainability in mind: I have produced a toolkit to encourage planners and developers to embrace the new technology.

I want to see a London with more accessible green spaces and cleaner air, which is actively working to tackle climate change. We must be prepared for London to grow and for the population to increase over the next 20 years. This makes the quest for sustainable solutions all the more pressing ■

Julio Etchart \ Still Pictures

Ken Livingstone is Mayor of London.

Star profile: **Tokiko Kato**

Cities and towns must relate to people's lives but they often seem to eliminate human participation, muses Tokiko Kato, the great Japanese folk singer and committed environmentalist.

"I want towns to be able to nurture treasured memories, to be places where people can enjoy walking, talking and hanging out – with street corners where children can play," she told Our Planet. "They should have landscapes changing day by day, where we can enjoy living nature.

"Ancient cities used to allow people to touch and decorate them. But the more urban life is modernised, the less close the relationship between the city and each person becomes. In its stew of inorganic structure, it looks as if humans are redundant.

"Over the past two decades we have placed too much value on things that are big, strong and fast. From now on we must value the things that are slow and sensitive."

Ms Kato, whose singing career spans 40 years, is sometimes called "the Japanese Joan Baez". In 1969, while still in her teens, she marched in protest on the Japanese Diet building and later married a well-known student activist while he was still serving a prison term.

She first became interested in the environment in 1972, the year of the groundbreaking Stockholm Conference, when she gave birth to her first child. "I learned that there was a risk that PCBs could accumulate in a baby from its mother's milk," she says. "This made me realise the terrible situation when pollution can affect people's precious lives without their knowing it."

In the meantime, she had already become a successful singer. In 1965, while still a student, she won an amateur competition and launched her career, winning the Great Record Prize for a new singer at the Japan Record Grand Prix the next year. She has recorded many hits and has received a Chevalier Medal for Culture from the French Government. At the 2002 Earth Summit in Johannesburg, the then Japanese Prime Minister Yoshiro Mori admitted to being "one of Tokiko Kato's fans."

She has become equally well-known as an environmentalist, acting both as a Councillor and Panda Ambassador for WWF Japan, and as a UNEP special envoy. During widespread travels she has been shocked by "the loss of forests in Thailand and Indonesia, the alarming desiccation of the Aral Sea in Uzbekistan and many other examples of ecological destruction – all due to the overwhelming power we now have at our fingertips."

She was encouraged, however, to find that "communities in Fiji and Tonga kept their traditional way of life, planting mangroves and building a wall – using sand and coral – to protect their land from cyclones." She adds: "For us to be sustainable, we must respect and revive local wisdom."

This she believes also applies to music. She has recorded traditional songs of the Ainu – the indigenous people of Hokkaido, Japan's northern island – and says: "It is very important to inherit the wisdom and abilities human beings have developed for ages. I am concerned to preserve traditional music, dances and festivals around the world because they can play a very important role in revitalising communities."

She also believes that a musician can use music as a means to promote environmental work – even though this has to be carried out practically on the ground. "We should see the world as a garden, and each one of us should feel responsible for its cleanliness," she says.

THE FEMALE Factor

ELISABETH GATEAU explains that increasing the number of women in local decision-making holds the key to environmental sustainability

There are many key factors for achieving environmental sustainability, but the effective management of cities is crucial. World Environment Day on Green Cities will highlight the crucial role played by Mayors and local councillors, men and women, – but the role of women in local decision-making is particularly important for long-term success.

The members of United Cities and Local Governments (UCLG) – the world local government organisation – are committed to supporting initiatives for more women in local government to achieve both gender equality and the Millennium Development Goals (MDGs).

Tangible difference

Increasing the number of elected women makes a tangible difference to the decisions taken by local authorities and can foster the changes in culture and perception needed to push issues like environmental sustainability and gender equality up the agenda. Systematically integrating women augments the democratic basis, as well as the efficiency and quality, of local government activities.

The link between women's participation in governance, gender advancement and achieving the MDGs has long been underestimated. Leadership shown by women in the world's poorest communities is a vital tool for achieving the goals, and increasing their number in local decision-making is therefore important not only for women but for men, children and all humanity.

UCLG also supports partnerships between elected and grassroots women. The work of Nobel Peace Prize Laureate, Wangari Maathai, shows the impact of grassroots women in Kenya. Initiatives to establish regular dialogue between grassroots women's groups and women mayors and councillors have proven to be an effective global tool in getting more women into politics and advancing gender-sensitive policies.

Networks of elected women, such as in Latin America and Europe, have facilitated national, regional and global exchange on safer cities programmes – and better planning to address women's concerns.

UCLG research estimates that 20 per cent of the world's councillors are female. Europe still has the highest participation of women in decision making, but the gap is closing with other regions like Latin America. Indeed, some African countries, such as Namibia and Uganda, now rival the most advanced nations in Europe with over 40 per cent women's participation at local level.

Gender equality

There is a long way to go to reach the levels of gender equality necessary for sustainable development, but there is a clear opportunity to take decisive action. That is why the UN Millennium Project Task Force recommends that women's participation in local political bodies should be an indicator in measuring progress in achieving the MDGs.
Mayors and councillors will go to the UN Millennium Summit in September to request support and recognition as leaders for global change. Local governments are uniquely placed to implement the MDGs and this must be recognised if they are to be achieved by 2015.

Success in achieving environmental sustainability and meeting the MDGs does not just benefit from the increased participation of women in local politics – it depends on it. Every day elected women are making a real and tangible difference to the quality of local, national and global governance. Women mayors and councillors in cities and communities are leading the way to a more sustainable, equitable and just world ■

Elisabeth Gateau is Secretary General of United Cities and Local Government

Unlocking People ENERGY

SOMSOOK BOONYABANCHA calls for a new approach to sustainable cities where people are made the subject, rather than the object, of developement

Sakchai Lalit AP

Pa Chan is a leader at Klong Lumnoon, a small community of 49 households on the outskirts of Bangkok. When I visited recently, she and a big group of community members were dredging out silt, water hyacinth and garbage from the small drainage canal running alongside the settlement. This is a monthly ritual here, and everyone pitches in. The canal used to run black and smell foul, but the people of the community began producing their own organic liquid compost and pouring it into water, and now it is green and full of catfish. These people used to be squatters in Klong Lumnoon, but after a long and bitter struggle against eviction, they negotiated successfully to buy a small part of the land - and then designed and constructed their own housing and infrastructure, as a collective project. They did not just transform themselves from embattled squatters to proud house-owners, but learned how working together makes possible many things they could not do individually.

We may have looked like a community of poor people living together

But let Pa Chan tell the story :

"When I first came to Bangkok as a young girl, 35 years ago, I stayed in several places and finally ended up here. We may have looked like a community of poor people living together, but back then we didn't know each other very well and kept to ourselves. There wasn't much trust and there was stealing, jealousy, all kinds of problems. To the government and society outside, we were almost not human beings.

"But then came the struggle against eviction and the slum upgrading program. We had to talk to each other, save our money collectively and work together as a group. At first, we didn't have much faith that a group of poor, uneducated people like us could take on such big task: usually housing projects are developed by government agencies or people with technical knowledge. But we kept saving, kept coming together, and kept talking and helping each other to deal with the problems that came up. Eventually, we were able to persuade the landlord to sell us a portion of land. We set up a cooperative so we could own land collectively, and then began the work of laying basic services and building new houses.

"At first, we thought we'd hire a contractor, but after some calculations, we figured that we could save three or four hundred thousand baht (US$ 7,000 - 10,000) if we did the work ourselves. So we divided ourselves into teams and set to work. Besides picking up construction skills, we learned a lot about each other's lives and families in the two years it took to build our new community. The construction process also became our community building, our trust building.

Nowadays, everybody knows everybody here, and we live like a big family. I can leave my children in the community when I go out, and feel safe knowing they'll be looked after. When the building work is finished, we have plans to plant trees and vegetables so our community will be green and clean."

Development intervention

This is just one small example of what can happen when a development intervention emphasizes people as the key to making change. People like Pa Chan and her neighbours have come a long way from their decades of isolation, illegality and powerlessness. With these new relationships and this new confidence, Klong Lumnoon has become a secure, healthy and vibrant place to live. Its residents now have the confidence to take full responsibility for managing any aspect of their community's development – physical or social. And even a poor woman like Pa Chan has become a regular speaker and an important adviser to many other communities and institutions in Bangkok and other cities around Thailand.

Why can't we make a similar shift in how larger city development processes work? People are the spirit of any city. They are the creators: they provide the energy, the labor and the life that make cities function. It is time to look at them as the focus of city development. It is time to find ways them to get involved in our growing cities, so that they feel a part of whatever has been (or is to be) developed in their local constituencies – communities, wards or districts, along their canals or around their markets.

How can people and communities play a part in the planning, the decision – making, the doing and the managing of their cities? How can they grow and be healthy as their cities grow? How can we begin a process where, little by little, the city begins to belong to people – whether poor or not? This calls for a big leap – a change in the city development paradigm. How can the system make room for the force of people's creativity to spring up and flourish so as to create this new urban development culture?

It is important to open up larger space for people to come together and to take ▸

up development activities in their localities - activities like house-building, community upgrading, canal-cleaning, and recycling or revitalizing community markets. When a housing project is to be developed, for example, the people affected should be able to determine how they want to live together, how the social system is to be developed, what form their new housing will take, and what kind of management system will be instituted. Rather than have architects, planners or developers just planning all this on paper for them.

Similarly, if some environmental feature of a city (like a canal, river, lake, mountain, historic site or shoreline) has become degraded, people who live within or around it can help develop it and, in the process, become its protectors and maintainers. This would give people a sense of sharing in the management of their city and it will build relationships between them and their improved surroundings.

Create space

If we see people as the subject of development, we have to create space for them to participate more actively and to have a stronger sense of ownership of what happens in their constituencies. Instead of the city being a vertical unit of control, these smaller units - people-based and local - can be a system of self-control for a more creative, more meaningful development.

Canal-cleaning activities in many communities have lead to many others, such as cultural events celebrating the long history of living with Thailand's life-giving waterways

When local development initiatives come from communities, people become the doers, and feel that the development of the larger environment is part of their communities, part of their lives, part of their achievement. Canal-cleaning activities in many communities have lead to many others, such as cultural events celebrating the long history of living with Thailand's life-giving waterways. These activities are the urban people's way of respecting nature, since canals bring water, life, wealth, fish, transport channels, income-earning opportunities - and a vivid reminder of our unignorable relationship with nature, in the centre of the city.

Development interventions should try to create space for people to be the doers, for them to be able to lead the development process with confidence. We just need to understand the techniques to unlock this people energy and to channel it into a creative new force for city development. This must be supported by adopting flexible financial management mechanisms to allow people the freedom - as a group - to undertake development activities they initiate or need.

Individual people in Asian cities now have a clear bilateral relationship with the state, but often very few horizontal ones among themselves. How can a single politician - or a set of politicians or government officials - possibly manage all the needs and aspirations of a city's five or ten million inhabitants, even if given the power to do so? If we start building a lot of smaller constituencies within a city, where people start relating to each other - and sharing between constituencies - a lot of horizontal learning, linking, and creativity will start to happen.

A city is not a homogeneous unit. Cities are getting very, very big - many in Asia now number in the tens of millions - much too big to make sense monolithically. It is easy to fall into the trap of believing that only gigantic sized policy decisions and mega-projects can tame and streamline these teeming, out-of-control agglomerations of humanity. But this kind of thinking leads to many of the unsustainable development attitudes that we labor under today.

It is possible to turn this around. If, instead, we look at cities as collections of many small, diverse and overlapping constituencies and allow the people of each to take part in developing their lives, their areas and their ways of relating to each other - with proper coordination - then the human element and scale can reappear. Cities will begin to be managable by their own citizens.

Asian cities are clearly bewildered by their recent explosion of growth, but they can draw on a long and rich history of how to manage coexisting interests and diverse populations with diverse needs. If we open up space for this enormous popular energy and allow it to play a stronger part in the larger systems in our cities, we will start seeing a lot of exciting new management systems emerging, and new directions in sustainable city development by the people themselves. ■

Somsook Boonyabancha is the Director of the Community Organisations Development Institute, Thailand.

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Think Local

SHEELA PATEL AND DAVID SATTERTHWAITE call for community-driven solutions to start meeting the Millennium Development Goals in towns and cities

The urban population of Africa, Asia and Latin America is now nearly three times that of the rest of the world. UN projections suggest that most of the growth in the global population up to 2020 will be in urban areas and nearly all of it will be in those three continents. A large and growing proportion of the world's poor are urban dwellers, lacking adequate incomes, secure housing and basic services. Urban locations are the places to begin to fulfil the Millennium Development Goals (MDGs).

How long will most governments and international agencies continue to believe that poverty is mainly a rural phenomenon? It is to cities that the rural poor migrate to fulfil their aspirations for a better life.

Why have fifty years of development cooperation failed to address the needs of much of the urban population in low- and middle-income nations? One of the most plausible explanations is the failure of most development initiatives to consult and work with the urban poor (and, where possible, also with local governments) in devising solutions that are locally appropriate. Yet these people's needs are the justification for these development initiatives – and for all the agencies that fund them – and most international agencies claim to support 'participation'. There is not much evidence that this most basic limitation is even being recognized – let alone addressed.

Most discussions of how to meet the MDGs focus on large increases in aid, debt relief and national poverty reduction strategies. But they neglect the local changes on which the achievement of most of them depend. There are hundreds of millions of slum dwellers whose unmet needs for water, sanitation, health care, schools etc. will have to be addressed if the MDG targets are to be achieved. So these hundreds of millions of slum dwellers will have to get local organizations to change their approaches so they can have land for housing (or tenure of the land they already occupy), infrastructure and services (including water and sanitation), and finance to support the construction or improvement of their houses. Many of the deprivations suffered by slum dwellers are the result of local organizations refusing to work with them – or not being allowed to do so by higher authorities.

Millennium Project

Discussions within the Millennium Project Taskforce on Improving the Lives of Slum Dwellers, on which we both served, emphasized the importance of community-driven solutions – and what governments and international agencies need to do to support them. We place less emphasis on the need for very large increases in international assistance and more on the need for governments and international agencies to change the way they work with urban poor groups. They need to be more accountable and transparent to them. We also have less faith in government-directed or international agency-directed, professionally managed solutions, unless▸

urban poor groups are sufficiently strong, representative and organized to ensure that these address their needs and priorities.

How can local government organizations be made more pro-poor? Or less anti-poor? Or to phrase it another way, how can the relationship between those with unmet needs and local organizations, especially city and municipal governments, be changed? Other changes are, of course, needed from national governments and international agencies – but, in the end, the effectiveness of many of these depend on whether they make local governments and other local organizations more effective in ensuring local needs are met, and more accountable to those with unmet ones. Local government does not provide for all needs, nor should it do so. But it has a major influence on how local markets operate, including those that are particularly important to low-income groups – such as those for land, housing and water and, in many instances, building materials and credit. It can also have a major influence on the effectiveness of local NGOs and their accountability to the urban poor.

Create spaces

Slum/shack dweller organizations are active in about 22 countries in Asia and Africa. Instead of waiting for development to come to them, they create spaces and scope for community groups (especially women) to take action themselves and to work together to negotiate with local government to address priority issues that they cannot achieve by themselves.

Over the last decade - Shack Dwellers International (SDI) – a network of community organizations and federations of urban slum or shack dwellers – has increasingly supported communities in negotiating for land, housing, sanitation and water, and has created local networks that begin dialogues to bring change with their city and government institutions. Communities support each other in learning new skills and developing confidence to explore solutions that they previously never considered were within their realm.

In Mumbai, India, the communities developed a strategy for a program where they design, construct and maintain lavatories – while cities pay for their construction – ensuring that millions of people have access to sanitation where previously they had none.

In South Africa, community federations are working with the city of Durban in an ambitious program to improve conditions in all its slums and shanty towns.

Slum/shack dweller organizations are active in about 22 countries in Asia and Africa.

They are also working with the Methodist Church of Southern Africa to locate unused church land and hand it over to communities needing land: they hope, in the process, to encourage the state to speed up the pace of turning over its own unused land.

When slums near the railways in Nairobi faced demolition, the federations suggested to the Kenyan railways and to the government that they might visit Mumbai, where over 15,000 households along the tracks had been relocated through a joint venture between the community, the state and railways.

The Community Organizations Development Institute (CODI), a unique Thai government institution, helps over 2,000 communities in over 200 cities to work in partnership with municipalities to address the housing and other issues of the poor.

Mantra of development

Decentralization has become a mantra of development and most solutions are, indeed, best developed at local levels. Whether in an emergency or in an ongoing development process, strong local actors produce more sustainable development solutions: the success of one phase acts as the foundation for the next set of activities and projects. But, crucially, this requires a strong centre – one that provides resources, helps build capacity and arbitrates the tensions that often lie between local actors and the differing priorities they represent.

Decentralization often occurs without building up strong stakeholders, without arbitration mechanisms that are transparent and deemed to be just, and without adequate resources. This makes it more a matter of "passing the buck" than of facilitating the process by which local actors, with seemingly different immediate goals, pool their capacities and resources together in pursuit of a longer term universally acceptable one. Global institutions and national governments have crucial roles in facilitating the transfer of knowledge, of strategies and resources that will turn local clashes over resources into solutions acceptable to all ■

Sheela Patel is the Director of the Society for Promotion of Area Resource Centres, India, working in alliance with the National Slum Dwellers Federation and Mahila Milan.

David Satterthwaite works at the International Institute for Environment and Development, and edits the journal Environment and Urbanization.

Eric Miller Still Pictures

High ACHIEVEMENTS

ENRIQUE PEÑALOSA describes how a green revolution began building a different type of developing country city in one of the world's highest capitals

Mark Edwards: Still Pictures

Developing country cities, which will double or treble their built area during the next few decades, have an opportunity to create better human environments than existing ones. These environments, fertile for happiness, would attract and retain highly qualified and creative people and thus promote economic development.

In our post-communist age, the way cities are created and organized can build on social inclusion and equality in the quality of life. A different urban model can be created, adopting – as a guiding rule – a basic democratic principle: the prevalence of public good over private interest.

Although Bogotá – where I was mayor from 1998 to 2001 – is still far from being a model, we and others were able quickly and radically to transform the attitudes of its citizens towards their city, prioritizing people's happiness over cars' mobility.

As developing country cities become more economically developed, the automobile becomes the main source of deterioration of the quality of life. Wide, high-velocity roads, dangerous to cross, become like fences in a cow pasture, separating neighborhoods and making the city less humane.

Symbolic ritual

Children are kept enclosed at home, in fear of motor-vehicles and can only go out unaccompanied when they really cease to be children. Often there are no sidewalks. Even when there are, parking bays are carved out of them, or cars simply park on them in a symbolic ritual that illustrates society's inequality: members of the car-owning minority are first class citizens, pedestrians are not.

If car use is not restricted, it demands unlimited investments in road infrastructure which devour scarce public funds that should instead go to water and sewage supply, schools, parks and meeting the other basic needs of the poor. Road infrastructure also facilitates migration of upper income groups to low-density suburbs, making it impossible to provide quality, low-cost, high frequency public transport. As traffic worsens, decisions may be made to invest in extremely expensive rail systems instead of taking road space away from private vehicles for quality bus systems to transport people to work. These dent public finances still more profoundly, and thus impede solving the needs of the poor even further.

Public management

Bogotá began by instituting responsible public management - which meant reducing bureaucracy, increasing tax revenues and privatizing some government tasks such as garbage collection. Essential needs for human survival, such as water supply, were met through efficient non-politicized utilities management and cross-subsidies, charging those with higher incomes much higher rates than the poor. Almost half of Bogotá, a city of seven million people at 2,600 meters altitude, grew spontaneously and illegally, often on mountain slopes that are hard to reach.Yet 99 per cent of the population now have clean water on tap at home.

Slum improvement, with high community participation, was made a priority. Improvements included property titles; quality nurseries and schools; parks; and public spaces proposed, designed and built by communities financed by the municipality but contracted with community organizations.

The goal, however, must be not to improve slums, but to avoid them. In Bogotá we created a city-owned company that acquires land around the city and urbanizes it well. Large parcels of land are assigned to private developers who are given a maximum of two years to build and sell houses at low pre-arranged prices. Most land around cities should be part of land banks, assuring low cost housing in quality urban environments so as to avoid slums

We went beyond meeting the basics of survival to begin implementing a different model from the one presented by advanced cities. Car use was restricted, with 40 per cent of them forced to be off the streets during six peak hours every day. We explicitly said that peak-hour traffic jams were not a problem, but a useful tool to promote high-density urban development and the use of public transport. In response to a referendum, the first Thursday in February each year was decreed to be car-free, with everybody having to get to work by public transport, bicycles or on foot. Tens of thousands of cars – which used to park on bays carved out of sidewalks – were removed, and hundreds of kilometers of wide well-lit tree-lined sidewalks were built.

Since 1982 the main streets of Bogotá have been closed to traffic on Sundays so that bicyclists and joggers can enjoy them. We extended the closures to 120 kilometers of roads for seven hours: every Sunday more than 1.5 million people come out to use them. More than 350 kilometers of protected bicycle ways were built; as a result bicycling rose from almost nothing to 4.1 per cent of the city's population. It goes beyond numbers. A low income helmeted cyclist▶

riding on a protected bikeway symbolises that a citizen on a US$ 30 bicycle is as important as one in a US$30.000 automobile.

Daily transport

Urban highways costing hundreds of millions of dollars, proposed by a Japanese agency, were rejected. A 32 kilometer greenway with bikeways was put alongside a creek where one of them was to have been built; it linked low and high income neighborhoods and served as a daily transport corridor for tens of thousands of bicyclists. Similarly a 15 meter wide tree-lined pedestrian street, 17 kilometers long, was built through low income neighborhoods in another part of the city. The goal is to create a pedestrian-and-bicycle-only network hundreds of kilometers long, which will make the city more pleasant and humane.

We rejected costly rail systems, and instead put in operation a Bus Rapid Transit system, inspired by one successfully pioneered in Curitiba, Brazil. We called it TransMilenio, to avoid the negative connotations of buses. It is boarded at stations with doors opening as the buses arrive: it is accessible for wheel chairs: and it provides speeds and capacities similar to rail systems. It moves more than 1 million passengers daily – and more passengers per kilometer hour than most rail systems. Other lines will soon be in operation and, by 2020, 85 per cent of the then nine million strong city's population will live within 500 meters of a station.

A referendum proposing the banning of all private car use during the peak morning and afternoon hours, beginning in 2015, achieved a majority vote – but failed to achieve the 33.3 per cent voter participation needed to become mandatory. However this continues to be a goal for many of us concerned with our city's future.

Providing quality

If safe mobility for those not having a motor-vehicle is a right, the providing quality sidewalks and protected bicycle-ways on all roads is not an option, but a basic element of democracy.

Restricting car use and creating a more pedestrian friendly city is an end in itself. But it also frees resources that would otherwise be spent on constructing and maintaining road infrastructure. In Bogotá this allowed us to build a formidable number of quality nurseries, schools, libraries and parks.

Some question the importance of public pedestrian spaces in a poor developing city with many unmet needs. Yet it is precisely in such societies that they are most important. During work time a high level executive and the lowest paid employee are equally satisfied; they meet work companions, do useful tasks. It is when they leave work that enormous differences arise. Upper-income persons go to large homes, often with gardens, and have access to clubs, country houses, vacations, restaurants, and concerts. But low income citizens and their children have no leisure time alternative to television – except for public pedestrian spaces. So providing quality ones must be high on the agenda of a democratic government.

With economic development lower income groups get goods which once seemed inaccessible to them, such as cell-phones, televisions, audio equipment. But they will never have access to green spaces unless governments act judiciously. Governments must make sure a large reserve of park land is created, and should never allow waterfronts to be private and exclusive.

Great public space

Public space is also space for equality. When different people meet, they are usually separated by their hierarchies, such as when the apartment owner meets the doorman and the Financial Vice-President meets the woman who serves coffee. But in public space everyone meets as equals: this is particularly powerful in highly unequal developing societies. A good city must have at least one great public space – one so marvelous that it is frequented even by the rich. By contrast, a city is sick when shopping malls replace public space as the place to meet, and when tourists are referred to them when they ask for a place to go to walk and see people.

Most developing country cities are not constructing quality environments. Many have no vision of their future: too many of those which believe they do, only unquestioningly envisage a version of a traditional advanced city. Bogotá suffers from most of the ills that affect developing cities. We have not yet solved all our problems, achieved a new vision, or even been freed from the risk of a relapse to the traditional model. But at least we began discussing some fundamentals ■

Enrique Peñalosa is a former mayor of Bogotá. Barred from immediate re-election by constitutional norms, he is now a consultant to many developing world cities.

Martin Bond/Still Pictures

Life At the Top

DUSTY GEDGE describes how environment and security concerns can lead to fruitful cooperation, even in one of the world's most turbulent regions

People rarely lift their eyes skyward as they walk along a busy street. But if they were to fly over most of the world's cities, and look down, they would see a bland patchwork of blacks and greys – their roofs. We can harness these uniform deserts to our, and the planet's, advantage.

Thousands of years ago people in such places as Norway and Western Ireland realised that placing turf on roofs provided simple and effective insulation. Today green roofs are commonplace on buildings from private houses to hospitals, factories and office blocks in countries like Germany and Switzerland.

There is growing interest in the Netherlands, Sweden, Denmark and Hungary. North American cities from Portland to Atlanta are promoting their use, while the city of Kawasaki in Japan has long been greening buildings to reduce air pollution and reduce the urban heat island effect.

Greening building

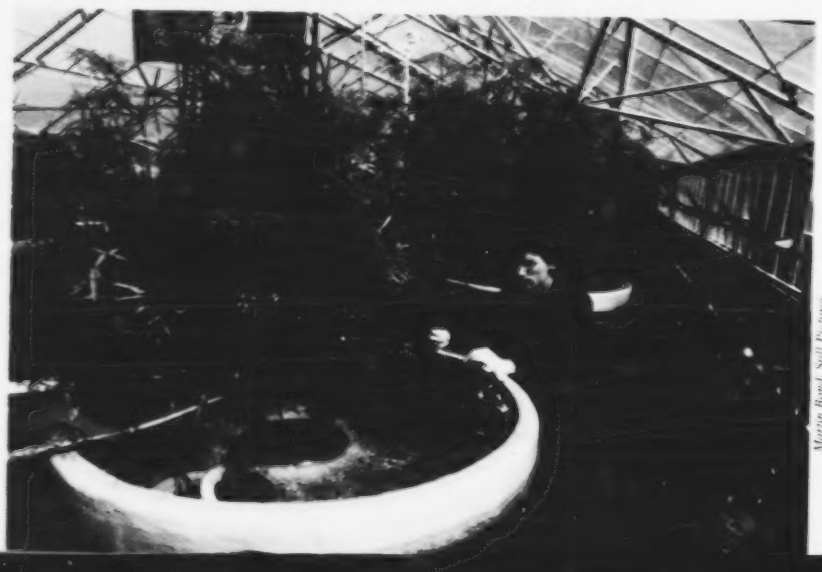
Modern interest in green roofs began in Germany in the 1970s, stemming from observations of vegetation growing spontaneously on traditional ones. They are now a legal requirement in many areas. Under planning law, green space must be replaced when new developments are constructed, and there financial incentives for green roofs. They are seen as providing a service to cities such as Karlsruhe and Stuttgart by holding water and letting it evaporate back into the atmosphere, reducing the impact of storm water on drainage systems and the incidence of flash floods.

This is also one of the main driving forces for installing green roofs in North America, where increased hard landscaping in cities and channelling of rivers have made floods a major problem. In Portland, Oregon, the metropolitan authority is considering a major green roof policy partly to help maintain good water quality in the Willamette River, thus protecting its salmon population.

Their effectiveness may be limited in wet winter conditions, but in summer they can help reduce the need for air conditioning

Multiple benefits

Yet retaining storm water is only one of the multiple benefits that green roofs bring to cities. They also, for example, ▶



Martin Bond/Still Pictures

provide insulation by acting as thermal barriers. Their effectiveness may be limited in wet winter conditions, but in summer they can help reduce the need for air conditioning. The City of Chicago has estimated that they could save in the region of US$100m a year in this way.

Peak demand for electricity could be reduced by 720 megawatts, it believes, reducing carbon dioxide emissions: rising summer temperatures, due to the urban heat island effect – and a connected increase in air pollution – can also be moderated. Atlanta is also promoting their use, greening the roof of its City Hall as a showcase. Starting with just 3,000 square feet of green roof space, it expects this area to multiply tenfold within the next few years.

Protect biodiversity

In Switzerland, green roofs have been developed to protect biodiversity. Construction law in Basel requires that all new flat roofed buildings are covered in some form of vegetation: official guidelines stress the importance of roof gardens for endangered beetles and birds.

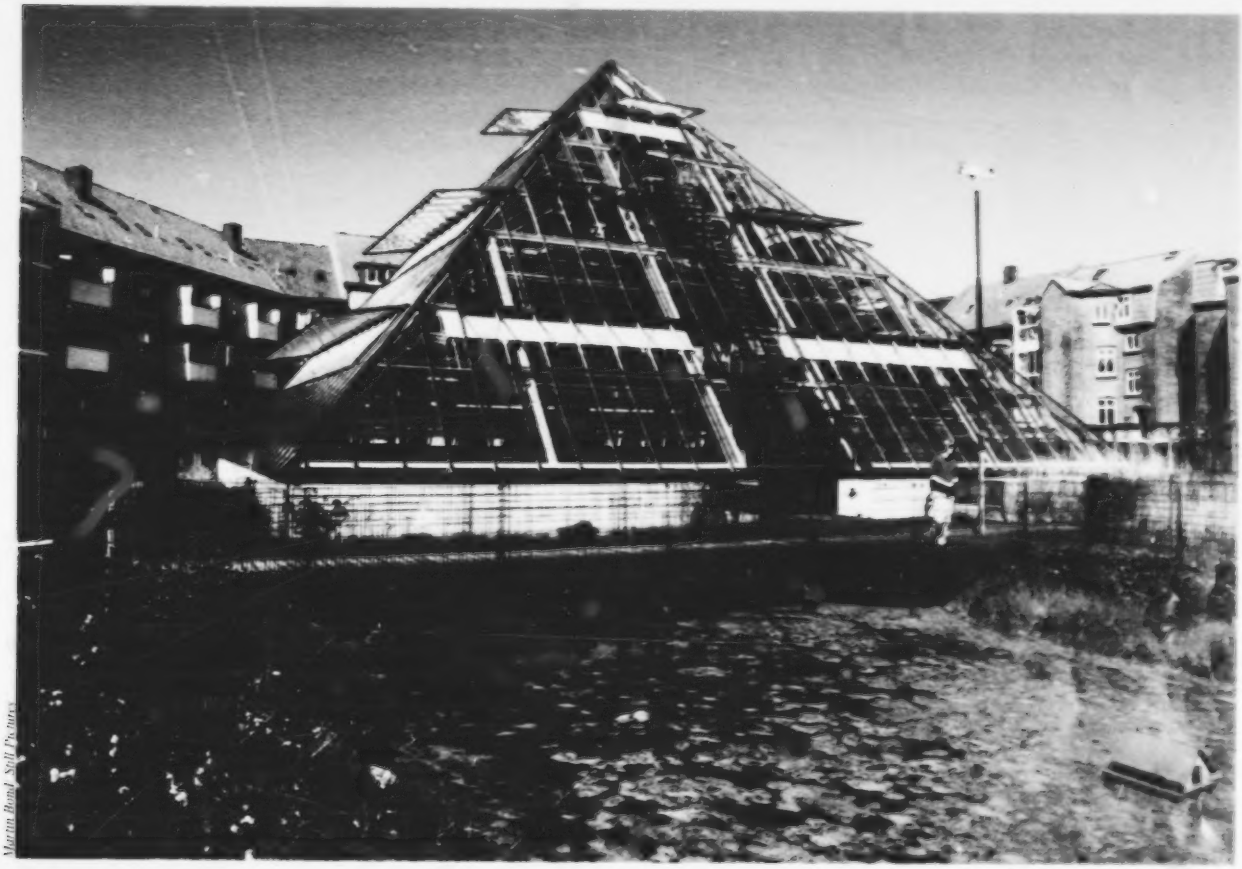
Platform roofs

Five big green roofs at the Moos filtration plant on the outskirts of Zurich, built in 1913, are now one of the last remaining examples of central Swiss wet grassland. They are so important for orchids that the federal government is considering classifying them as a national park! And new platform roofs at the city's railway station have been designed to resemble a stony desert, to help conserve a rare lizard. Concern for biodiversity is also driving growing interest in the UK, which has shown little interest in using green roofs for ameliorating surges of storm water, despite the pressure these place on London's antiquated drainage system, releasing sewage into the Thames. Up to now the roofs have been seen only appropriate for 'alternative' or environmental establishments, but they are beginning to now come into their own through a plan by the London Biodiversity Partnership to protect a rare bird, the black redstart. Over 250,000 square metres of green roofs are planned to provide habitat for it, at such notable development sites as King's Cross railway station, Battersea power station, and the Greenwich Peninsula. And a leading insect conservation organisation, Buglife, is pushing for their use at a new development at Shellhaven, Canvey Island, an area particularly important for rare insects.

Air pollution

Good green roofs can not only ameliorate storm water discharges, air pollution, noise and energy use, but turn cities into refuges for rare species endangered by industrial farming in the countryside. Perhaps our cities' roofscapes will cease to be deserts and become unique wildernesses, providing havens for nature as well as making healthier and better places for people to live ■

Dusty Gedge is co-founder of Livingroofs.org



Martin Bond/Still Pictures

BOOKS & PRODUCTS

ECO 4 THE WORLD

E4W stands for Eco 4 the World, a 13-part, half-hour television magazine show launched at MIPTV in Cannes in April. UNEP and the United Nations Development Programme are partnering with the Singapore-based production house, Big Durian, together with the Singapore Economic Development Board, to produce the multimedia show which will reach out to a young global audience, communicating environmental ideas and messages through innovative, lively and interactive programming. Highlighting positive stories, focusing on fun – and involving Nobel Peace prizewinner Archbishop Desmond Tutu and stars Sting, Alicia Keys, and Simple Plan – it will aim to create environmental awareness around the world.

Japan's official Prime Ministerial residence has been transformed into a model eco-home, as a symbol of the country's determination to reduce emissions of greenhouse gases under the Kyoto Protocol. The refurbished four-storey building is the first in the country to be partially powered by fuel cells, while its roof is covered with solar panels. But, while facing towards the future, it has also kept in touch with the past: it includes a traditional teahouse, complete with tatami mats, looking out on a Japanese garden.

The latest in a series of groundbreaking UNEP children's storybooks on environmental issues – *Tina and the Green City* – tells of a young North American girl who, unhappy with her polluted city, organises an after-school club to try to make it cleaner and greener. Though at first everyone laughs at Tina and her friends, they embark on a step-by-step programme starting with cleaning up the park across their street. Eventually the city is transformed and their initiative is emulated throughout the country. Written by Carole Douglis and illustrated by Adrienne Kennaway, it is the third book in the series: one of the others, *Theo and the Giant Plastic Ball*, was featured in the *New York Times* in April.

***Tina and the Green City** sells for US$8 and can be purchased from UNEP's online bookshop at: www.earthprint.com.*

The United States Environmental Protection Agency (USEPA) has selected UNEP's Division of Technology, Industry and Economics (DTIE) for the 2005 Stratospheric Ozone Protection Award in recognition of the work of the OzonAction Branch, the first UN agency programme ever to have received it. The prestigious award – a collective achievement of DTIE's Compliance Assistance Programme delivered through its Paris office and through UNEP's regional offices - were presented in Washington, D.C. on 4 May. USEPA praised the "leadership and innovation of the OzonAction Programme" and said it has "benefited well over 140 countries through its unique regional networks of National Ozone Units and global information clearing house."

Between 30 and 60 per cent of the people of most cities in the developing world now live in shanty towns and slums. ***Empowering Squatter Citizen,*** edited by Diana Mitlin and David Satterthwaite, published by Earthscan, contains case studies of innovative government organisations in Thailand, Mexico, Nicaragua and the Philippines and community-driven processes in India, South Africa, Pakistan and Brazil which have been effective in reducing urban poverty by strengthening the organisations of the poor and homeless.

One Planet, Many People: Atlas of Our Changing Environment illustrates – though a combination of current and historical satellite images, ground photographs and narrative based on extensive scientific evidence – how humans have altered their surroundings and continue to make observable and measurable changes to the global environment. Produced by UNEP in cooperation with NASA, the US Geological Survey, and the University of Maryland, it underscores the importance of developing, harnessing and sharing technologies that help provide deeper understanding of the dynamics of environmental change.

***One Planet, Many People Atlas of Our Changing Environment** can be purchased from UNEP's online bookshop at: www.earthprint.com. Price: US$150 (332pgs, large format).*

Focus On Your World
Gold Prize Winners

Since 1991 UNEP, with the sponsorship of Canon, has held four highly successful 'Focus on Your World' photographic competitions on the environment.

This year's winning images are highlighted in the UN Pavilion at EXPO 2005, and will be on display in San Francisco as part of the World Environment Day celebrations (1 - 5 June). The gold prize winners depicted here were chosen from over 52,000 entries from around the world.

General Category

Wildlife Refugees/ Tamil Nadu, India
Reshmi Chandra Senan, India

Youth Category

Rich and Poor on Top of the Old Garbage Dump of Mexico City / Mexico
Monica Alexandra Terrazas Galvan, Mexico

Children's Category

Buddhism to Conserve/ Thailand
Chamaiporn Pongpanich, Thailand

Canon

UNEP

BLACK SEA, GREEN CITY?

On the shores of the 'bluest of blue' Black Sea stands the extraordinary city of Sevastopol, - my home. In its relatively short, 222 year, history, it has known its share of conflict and war, but has always been renowned for its resilience and patriotism. The days of great battles are long gone and its old chessboard grid of white streets and boulevards has made way for "Khrushchevite" slums. The sleepy navy base with tree lined avenues - where locals and tourists could once breathe clean air and bathe in the crystal clear waters of one of Sevastopol's 40 bays - is no more.

The water in its bays, once so blue and clear, is no longer clean and - truth be told - often smells quite badly.

The deterioration of the marine environment which so affects this city has lead to a dramatic fall in the number of marine organisms at all levels - from bacteria to fish and dolphins. Oil spills, and the not inconsiderable level of pollution from the city itself, have helped turn the water murky and driven down oxygen levels. Things are so bad that even mussels, which are generally well adapted to living in dirty water, are suffering. Not to mention sturgeon and caviar!

And what about tourism? It is quite common for at least two public beaches to close for hygiene reasons at the height of the tourist season. The water on these beaches can only support dangerous bacteria and viruses, no other life.

Of course I am too young to teach those big people in their ministries how to do their jobs. To be completely honest, I'm not even sure how to tackle the problem. Maybe the removal of the Black Sea Fleet which is based in Sevastopol might be a start. This would also be a good thing from a aesthetic point of view: the view from Komsomol Square down to the South Bay would no longer be obscured by submarines and destroyers.

Also, the people of Sevastopol should do the right thing and pay their municipal taxes in full and on time. Maybe then pipes will be less likely to rust and burst, spilling their unsavoury contents all over our city and into the sea.

Some international efforts are under way to clean up our Black Sea, but it will be a long time before we see the results of these plans. In the meantime we can only hope that the preservation of truly green cities on the Black Sea coast will be an issue not only for biologists and ecologists.

Maybe if we care about these issues more, the world's most talented artists, writers and scientists will again flock to the Crimean Riviera. People with open friendly faces will walk the white streets of Sevastopol, the city will once again drown in a sea of green and the water in the city's bays will be as crystal clear as the air they breathe.

Halyna Alomova - 17 years old, Ukraine